

REMARKS

This amendment is filed in response to the Examiner's office action dated March 20, 2002. In this office action, the Examiner has indicated that claims 39-48 are allowed. In this office action, the Examiner has also indicated that claims 2, 4-11, 13, 15-38, 50, and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In this office action, the Examiner has rejected claims 1, 3, 12, 14, and 49 under § 102(b) as being anticipated by Schneid et al. (U.S. Patent No. 5,730,376).

In response, claims 1 and 49 have been amended by respectively incorporating limitations found in dependent claims 8 and 50, indicated by Examiner as reciting allowable subject matter. As such, it is believed that claims 1-7, 9-38, 49, and 51 are now in condition for allowance and allowance is respectfully requested.

Claims 52-76 are new. Of the newly presented claims, claims 52, 58, 62, 65, 66, 70, 72 and 73 are independent claims.

Independent claim 52 is believed presented in condition for allowance as it recites a refiner plate segment having an angularly adjustable refining surface section that is fixed during refiner operation. Schneid et al. fails to disclose angular adjustability and fixing of the angularly adjustable section during refining. Additionally, claim 52 recites limitations previously recited in dependent claim 8, a claim indicated by the Examiner as reciting allowable subject matter.

With regard to independent claim 58, Schneid et al., alone or in combination with any other cited reference, fails to disclose, teach or suggest a refining surface insert disposed radially outwardly of an outer peripheral edge of a base of a refiner plate *segment* that is angularly rotatable for changing insert bar angles relative to the angle of the bars of the refining surface carried by the base to optimize refining performance of the segment.

Independent claim 62 is also believed to be presented in condition for allowance as it recites a refiner plate comprised of segments each having angularly adjustable refiner bars that can be angularly adjusted but which are fixed during refining.

Independent claim 65 recites a refiner plate comprised of segments having an angularly adjustable portion of a refining surface being adjustable between a plurality of angular positions to tune refining performance by selecting a position that optimizes performance. Schneid et al. alone or in combination with any other reference of record fails to disclose tuning refining performance in this manner to select the position that provides maximum performance in comparison to the remainder of the angular positions tried.

Independent claim 66 is believed to be allowable over the cited art of record as it recites a refiner plate segment having an angularly adjustable and axially displaceable refining surface insert.

Independent claim 70 further recites a biasing element that urges the insert away from a refiner plate-mounting surface of the refiner. Schneid et al. fails to disclose, teach or suggest such a claimed arrangement.

Independent claim 72 is believed to be in condition for allowance because Schneid et al., alone or in combination with any other cited reference of record, fails to disclose, teach or suggest an angularly adjustable and axially displaceable refining surface insert that is received in a pocket in a base of a refiner plate segment and which engages the base.

Independent claim 73 recites a segment of a refiner plate having an axially displaceable refining surface that is removably attached by fasteners to a base that can be part of the segment or a refiner plate-mounting surface. Schneid et al. fails to disclose, teach or suggest axial displaceability during refining.

For at least these reasons, it is believed that the newly added claims are presented in condition for allowance and allowance is respectfully requested.

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**Conclusion and Request for a One-Month Extension of Time**

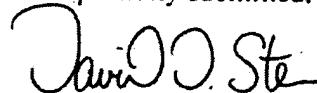
All of the claims are believed to define patentable subject matter and to be in proper form for allowance. Therefore, consideration and allowance of claims 1-7, 9-38, 49, and 51-76 are respectfully requested.

Applicant authorizes charging Deposit Account No. 50-1170 in the amount of \$1,196, which includes (1) \$672 for eight independent claims in excess of the number previously paid for (2) \$414 for twenty-three claims in excess of the number previously paid for, and (3) \$110 for a one-month extension of time from June 20, 2002 to July 20, 2002 to respond to the March 20, 2002 office action. July 20, 2002 was a Saturday. Therefore, this response, dated July 22, 2002, meets the July 20, 2002 extended deadline.

No other fee is believed to be payable with this communication. The Commissioner is also authorized to charge payment of any other fees associated with this communication or credit any overpayment to Deposit Account No. 50-1170.

The Examiner is invited to contact the undersigned if it would expedite matters.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Amended Claims

1. (Amended) A rotary disk refiner for refining fiber in a liquid stock comprising:
  - a housing having a stock inlet;
  - a rotor within the housing that rotates about an axis of rotation during operation and which has a first refiner plate mounting surface;
  - a second refiner plate mounting surface within the housing that opposes the rotor;
  - a first refiner plate carried by the first refiner plate mounting surface, the first refiner plate comprised of a plurality of pairs of upraised refiner bars that define grooves therebetween that collectively form a first refining surface;
  - a second refiner plate carried by the second refiner plate mounting surface, the second refiner plate comprised of a plurality of pairs of upraised refiner bars that define grooves therebetween that collectively form a second refining surface, wherein the second refiner plate opposes and is spaced from the first refiner plate, and wherein a refining zone is defined between the opposed refining surfaces of the first and second refiner plates; and
    - wherein one of the refiner plates has one portion of its refining surface that is movable relative to another portion of its refining surface with the one portion of the refining surface and the another portion of the refining surface being angularly fixed during refining fiber.
20. (Amended) The rotary disk refiner ~~plate~~ of claim 16 wherein the one of the refiner plates has (a) a front with a front surface that comprises its refining surface and (b) a rear with a rear surface, and wherein the pocket in the one of the refiner plates extends completely through the one of the refiner plates, permitting insertion or removal of the insert from the rear of the one of the refiner plates.

21. (Amended) The rotary disk refiner ~~plate~~ of claim 20 wherein the insert has a base with an outwardly extending portion, and adjacent the rear of the one of the refiner plates the pocket comprises an outwardly extending well that receives the outwardly extending portion of the base of the insert with the outwardly extending portion of the base of the insert preventing removal of the insert through the window.
22. (Amended) The rotary disk refiner ~~plate~~ of claim 21 wherein the well comprises a counterbore or a countersink.
23. (Amended) The rotary disk refiner ~~plate~~ of claim 22 wherein the outwardly extending portion of the base comprises a flange that extends outwardly about the periphery of insert and that engages the one of the refiner disks to prevent removal.
24. (Amended) The rotary disk refiner ~~plate~~ of claim 1 wherein the one portion of the refining surface is comprised of an insert that is captured by the one of the refiner disks and the refiner plate mounting surface to which it is mounted.
25. (Amended) The rotary disk refiner ~~plate~~ of claim 24 further comprising a biasing element between the insert and the refiner plate mounting surface to which the one of the refiner disks is mounted, wherein the biasing element urges the insert outwardly.
26. (Amended) The rotary disk refiner ~~plate~~ of claim 24 further comprising a biasing element between the insert and the refiner plate mounting surface to which the one of the refiner disks is mounted, wherein the biasing element urges the insert outwardly such that the edges of the refiner bars of the insert are substantially flush with the edges of the refiner bars of the another portion of the refining surface.

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49. (Amended) A refiner disk segment for removably mounting to a refiner plate mounting surface of a rotary refiner comprising:

a first section that is axially displaceable relative to the refiner plate mounting surface;  
and

a second section that is axially displaceable relative to the refiner plate mounting surface  
and relative to the first section; and

wherein the first section is disposed radially outwardly of the second section.

51. (Amended) The refiner disk segment of claim 50-49 wherein the first section extends  
annularly from one radial edge of the segment to the other radial edge of the segment and the  
second section extends annularly from the one radial edge of the segment to the other radial edge  
of the segment.